that may communicate with the electronic device **10** and/or to a GUI of the display **18** of the electronic device **10**. Additionally or alternatively, the processor **54** may send the indication to memory **56** to store the information, the determined gain of the test transmission signal, the gain difference between the initial gain and the determined gain of the test transmission signal, and/or other information that may be measurable and/or useful in providing or narrowing the commercial testing process for the electronic device **10**.

[0087] On the other hand, if the determined gain is greater than or less than the threshold range of the initial gain, then the processor **54** sends (process block **178**) an indication that the receiver is not operating as expected. For this determination, the processor **54** may also send the indication to memory **56** to store the indication, the determined gain of the test transmission signal, the gain difference between the initial gain and the determined gain of the test transmission signal, and/or other information that may be measurable and/or useful in providing or narrowing the test process for the electronic device **10**. For example, such an indication may quickly indicate the particular receiver and/or the associated transmitter, and the components (e.g., antenna **74**, phase shifter **70**, amplifier **72** of FIG. **7**) in their respective chains, as the reason for the electronic device **10** to operate unexpectedly. Moreover, the indication may be used to selectively activate or deactivate components, such as deactivating the associated transmitter and instead, activating another transmitter of the electronic device **10**. Subsequently, the antenna coupling validation may be performed again with the transmitter and its associated initial gain as determined during the manufacturing process.

[0088] The antenna coupling validation **100** and reflector validation **160** for the radio frequency head **58** of the electronic device **10**, may provide an efficient test scheme for testing a portion (e.g., the radio frequency head **58**) of the electronic device **10** to identify one or more device components of the radio frequency head **58** that cause the electronic device **10** to perform in an unexpected manner. Moreover, the antenna coupling validation **100** and reflector validation **160** may also provide a starting test point for efficiently determining the one or more device components that may not be part of the radio frequency head **58** and that cause the electronic device **10** to perform in an unexpected manner when the radio frequency head **58** is performing within the threshold.

[0089] The specific embodiments described above have been shown by way of example, and it should be understood that these embodiments may be susceptible to various modifications and alternative forms. It should be further understood that the claims are not intended to be limited to the particular forms disclosed, but rather to cover all modifications, equivalents, and alternatives falling within the spirit and scope of this disclosure.

[0090] The techniques presented and claimed herein are referenced and applied to material objects and concrete examples of a practical nature that demonstrably improve the present technical field and, as such, are not abstract, intangible or purely theoretical. Further, if any claims appended to the end of this specification contain one or more elements designated as "means for [perform]ing [a function] . . . " or "step for [perform]ing [a function] . . . ," it is intended that such elements are to be interpreted under 35 U.S.C. 112(f). However, for any claims containing elements designated in any other manner, it is intended that such elements are not to be interpreted under 35 U.S.C. 112(f).

1. A tangible, non-transitory, machine-readable medium, comprising machine-readable instructions that, when executed by one or more processors, cause the one or more processors to:

send a plurality of transmission signals from a plurality of transmitter antennas of a plurality of transmitters;

receive the plurality of transmission signals at a receiver antenna of a receiver;

determine a strongest coupled transmission signal of the plurality of transmission signals at the receiver antenna;

determine a reference gain of the strongest coupled transmission signal at the receiver antenna and an associated transmitter of the plurality of transmitters;

send a test transmission signal from an associated transmitter antenna of the associated transmitter;

receive the test transmission signal at the receiver antenna;

determine a gain of the test transmission signal, wherein the gain comprises a measured energy of a signal at the receiver antenna; and

in response to determining that the gain is within a threshold range of the reference gain, send an indication that the receiver is operating as expected.

2. The tangible, non-transitory, machine-readable medium of claim **1**, wherein the plurality of transmitter antennas is configured to operate using a first polarity and the receiver antenna is configured to operate using a second polarity opposite the first polarity.

3. The tangible, non-transitory, machine-readable medium of claim **1**, wherein the machine-readable instructions cause the one or more processors to determine the reference gain during a manufacturing process.

4. The tangible, non-transitory, machine-readable medium of claim **1**, wherein the machine-readable instructions cause the one or more processors to determine the strongest coupled transmission signal based on a receiver automatic gain control of the receiver and a transmitter gain index of the associated transmitter.

5. The tangible, non-transitory, machine-readable medium of claim **1**, wherein the plurality of transmission signals at the receiver antenna corresponds to a plurality of receiver gain states, and wherein the strongest coupled transmission signal comprises one receiver gain state of the plurality of receiver gain states that shares a least number of data points with the plurality of receiver gain states.

6. The tangible, non-transitory, machine-readable medium of claim **1**, wherein the machine-readable instructions cause the one or more processors to send an indication that the receiver, the associated transmitter, or a combination thereof, are operating unexpectedly in response determining that the gain is greater than or less than the threshold range of the reference gain.

7. The tangible, non-transitory, machine-readable medium of claim **1**, wherein the machine-readable instructions cause the one or more processors to send the plurality of transmission signals using beamforming techniques.

8.-14. (canceled)

15. An electronic device, comprising:

a plurality of antennas;

a plurality of transmitters configured to transmit a plurality of transmission signals to one or more of the plurality of antennas;